Rehabilitation Series 7

RECENT RESEARCH WITH THE ATTITUDES TOWARD DISABLED PERSONS SCALE: SOME RESEARCH ABSTRACTS

INA MEND INSTITUTE

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HUMAN RESOURCES CENTER

ALBERTSON, NEW YORK 11507

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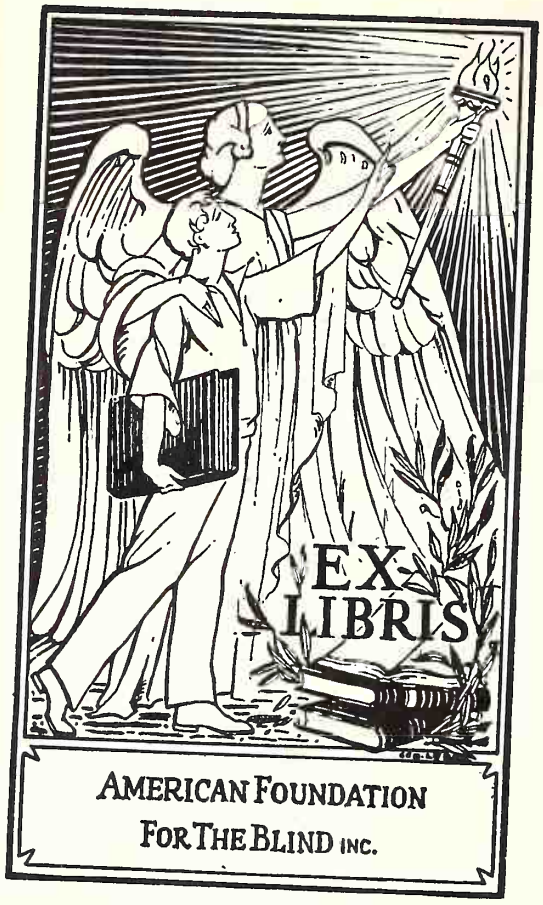

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RECENT RESEARCH WITH THE ATTITUDES TOWARD DISABLED PERSONS SCALE: SOME RESEARCH ABSTRACTS

J. R. BLOCK

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ALBERTSON, NEW YORK 11507

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FOREWORD

When the Attitudes Toward Disabled Persons Scale (ATDP) was first developed, it was hoped that this scale would permit significant findings in determining how society views the disabled. The Human Resources Center is extremely gratified that the study received worldwide interest and that many inquiries are still continually being received.

This monograph is a collection of some of the more extensive research studies that were conducted using the ATDP. It is the hope of the faculty of the Human Resources Research and Training Institute that the ATDP will be continually used, especially with disabled persons.

So much of the destiny of the disabled depends upon how they are accepted as they seek education, the opportunity to work and a chance to be with others.

Henry Viscardi, Jr.
President

HUMAN RESOURCES CENTER

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1973 was the beginning of the second five years of the relationship between the Human Resources Center and the Insurance Company of North America. Established in 1968, the INA MEND Institute continued to serve INA's Rehabilitation Program in providing the latest knowledge in vocational rehabilitation, research and training.

Housed in the three-part complex known as Human Resources Center, the INA MEND Institute is involved in programs related to the training and employment of the severely disabled, research in accident prevention and loss control and the dissemination of information. Each of the three components of the Center play an integral part in this relationship.

The INA MEND Institute works closely with INA's MEND Program to help provide essential financial management, medical care and ultimately vocational training and placement. The INA MEND Institute Committee is the guiding influence in determining the current and future needs of the insurance-rehabilitation field.

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RECENT RESEARCH WITH THE ATTITUDES TOWARD DISABLED PERSONS SCALE: SOME RESEARCH ABSTRACTS

J. R. BLOCK

CHAPTER 1

INTRODUCTION

The Attitudes Toward Disabled Persons Scale (ATDP) was first published in 1960 by Yuker, Block and Campbell as Human Resources Study #5, "A Scale to Measure Attitudes Toward Disabled Persons." Later in 1966 with two new and longer forms, a subsequent monograph was written by Yuker, Block and Younng as Human Resources Study #7, "The Measurement of Attitudes Toward Disabled Persons."

This latter monograph received the research award of the American Rehabilitation Counseling Association in 1970 "in recognition of an outstanding contribution to research literature." Over the years, the ATDP has become one of the most widely used instruments of its kind.

Obviously self-report attitude scales have severe limitations. One of the ways in which misuse or misinterpretation can be reduced is through research and publication of findings. Thus, this publication contains abstracts of recent research using the ATDP. They supplement the earlier monograph. The abstracts are not complete. Abstracts of each article cited are limited to relationships reported with the ATDP. Thus, in many cases additional inter-correlations between measures were reported or other instruments used but not related to the ATDP. These data have not been cited in the abstracts.

To make this monograph as useful as possible, special indicies have been included. The first indicates the general characteristics of the samples used. The second lists the major dependent variables reported in the study with the exception of standardized tests. The standardized instruments are reported in the third index. Many of these tests have large numbers of subscales. These are not separately indexed, but the general relationship between each and the ATDP is cited in the abstract.

It is a bit disappointing that very few of the recent studies with the ATDP have been conducted with disabled persons as subjects. It was hoped when the ATDP was developed initially that it might be of some use in understanding and predicting the success or failure of the disabled in the process of rehabilitation, adjustment to disability, employment, etc. Most of the studies cited here deal with college or graduate students and the attitudes generally of physically normal subjects employed in various occupational groups or in the process of being trained for certain professions.

Some of the studies modified the ATDP (e.g. reducing the number of response alternatives or changing the wording of one or more items). These studies are indicated with an asterisk. In each of the studies conducted by Dr. J. P. Jordan and his colleagues (#16-19 inclusive) the ATDP has been translated into another language for administration to non-English speaking groups.

Where authors indicated which unmodified form of the ATDP was used, and presented means and standard deviations separately for males and females, this data has been summarized to contribute further normative information on the scales.

Interested investigators are encouraged to review the original studies. However, some of the abstracts refer to unpublished research. These are on file at the Rehabilitation Research Library under the INA MEND Institute at Human Resources Center. We will be pleased to honor requests from interested investigators for individual copies of articles not generally

available. We also invite interested investigators to make use of the library facilities. The library is open from 8:30 a.m. to 4:30 p.m. on regular workdays. Appointments can be made by calling (516) 747-5400, extension 341 or 362.

The abstracts cited here are almost certainly not the only recent studies using the ATDP. Human Resources Center would appreciate receiving copies of any reports or articles using the scale so that additional supplements such as this one can be prepared. It is hoped that such an interchange can contribute to meaningful utilization of the test and a better understanding of attitudes toward disabled persons.

NORMATIVE DATA

Abstract #	Sample	Sex	N	M	S.d.
Form – 0					
6	Undergraduates	M	25	71.6	17.9
		F	25	74.0	13.3
8	Teachers	M	99	75.1	13.8
		F	374	80.0	13.7
Form – B					
11	Graduate Students	M	37	126.8	19.6
		F	23	126.6	18.9
14	Airline Stewardesses	F	50	102.0	18.6
	Typists	F	50	125.5	21.4
26	Undergraduates	M	39	109.8	20.2
		F	42	114.9	24.1
28	Physical Therapy Students and Practitioners	M	33	105.6	14.1
		F	140	111.6	18.5
34	Jr. H.S. Students	M	136	97.5	23.8
		F	147	110.7	20.0

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*Indicates a modified form of the ATDP was used.

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*Indicates a modified form of the ATDP was used.

#1 Anthony, W. A. **The relationship between contact with the physically disabled, cognitive attitudes, and overt behavior.** Rehabilitation Counseling Bulletin, **1969,** 12, **168-171.**

Anthony studied 42 college educated non-physically handicapped counselors at a camp for handicapped and underprivileged children. The camp functioned for two months. The reference does not indicate which form of the ATDP was administered to the counselors, but it appears to be one of the 30 item forms (i.e. either Form A or B). However, it does suggest the scale was administered twice (both before and after camp). The post-camp scores were used as indicators of the counselor's cognitive attitudes after being involved in a close contact experience with the handicapped. In addition, at the conclusion of the camp, the camp director was asked to rate the counselor's performance with handicapped children. He based his rating on his own observations and the written observations of the counselor's immediate supervisor. Based on these ratings counselors were divided into three groups classified as "outstanding," "average" and "below average." Post-camp ATDP scores of these three groups were analyzed to determine whether or not a relationship existed between the ATDP and the directors' ratings of counselor behavior with physically handicapped children. An analysis of variance indicated that both the "outstanding" and the "average" group scored significantly higher on the post-camp ATDP than did the "below average." However, there was no significant difference between the "outstanding" and the "average."

Pre-camp measures were not reported on in the reference.

#2 Anthony, W. A. **A methodological investigation of the "minimally facilitative level of interpersonal functioning."** Journal of Clinical Psychology, **1971, 27 (1), 156-157.**

Anthony studied 13 counselors who were "involved in a didactic experiential training experience with focused primarily on increasing the trainee's ability to communicate facilitative and action-oriented conditions." Each of the 13 counselors was cast in a helping role with a physically disabled standard client for approximately 35 to 40 minutes. Prior to this, the counselors were administered a 30 item form of the ATDP (the reference does not indicate whether Form A or Form B was used). According to the author, ratings of "facilitative conditions" were performed by two experienced therapist raters. Another pair of raters (who had no knowledge of the first pairs' results) rated "client self-exploration," "counselor type," "frequency of confrontation" and "counselor level of immediacy after client confrontation."

When subjects were divided at the median rating for "facilitative conditions" a significant difference in ATDP scores was obtained with higher scores found for those who were rated higher on this dimension. The relationship between ATDP scores and other ratings was not reported.

#3 **Anthony, W. A., & Carkhuff, R. R. The effects of rehabilitation counselor training upon trainee functioning.** Rehabilitation Counseling Bulletin, **1970,** 13 **333-342.**

Anthony and Carkhuff randomly selected 32 graduate students representing first and fourth semester counseling students and first and fourth semester philosophy students. Thus, four groups of 8 students each were available. In addition, 7 faculty members of the Rehabilitation Counseling Department comprised a fifth group. All 39 subjects were cast in a "helping" role twice; once with a physically disabled client and once with a physically normal college student. The helpers were given a set to "be as helpful as possible." A single physically disabled client saw all 32 students and dealt with real life vocational problems. Four different college student clients were seen by 8 student "counselors" (2 from each of the 4 groups). The disabled client was seen by all seven faculty members but unequal numbers of physically normal college student clients were seen by the faculty. All interviews were tape recorded and excerpts from each were rated on a 5 point scale for "counselors communication level" and "client's depth of self-exploration." (The authors report high reliability and interrelating reliabilities for these ratings). In addition the ATDP was administered to the college students. It is not clear whether Form A or B was used.

According to the authors "the overall analysis of variance indicated that in general rehabilitation students had more favorable attitudes than philosophy students ($p < .01$). While first semester rehabilitation students were not found to have significantly more positive attitudes than first semester philosophy students, fourth semester rehabilitation students had more favorable attitudes than first semester students ($p < .05$) and fourth semester philosophy students ($p < .05$).

According to the authors, the ATDP correlated significantly with "client self-exploration" ($p < .05$) and "discrimination" ($p < .01$) but not with "communication."

Note: According to the authors, "level of communication of the facilitative dimensions of empathy, respect, concretness, genuineness and self-disclosure is possibly related to (a) indecies of client process movement and (b) a variety of outcome indecies of constructive client change or gain.

"Level of client self-exploration is (a) an index of counselor behavior in the respect that it is dependent in part upon counselor level of functioning and (b) related to indecies of constructive client change or gain.

"Level of discrimination was found to be necessary although not sufficient condition of effective communication."

#4 **Bell, A. H. Measure for adjustment of the physically disabled. Psychological Reports, 1967, 21, 773-778.**

Bell's study was designed to explore the attitudes of orthopedically disabled individuals toward his own disability and to initiate preliminary steps towards standardizing an instrument to measure adjustment of the physically disabled. He used 45 orthopedically disabled subjects who were given the Bell Disability Scale of Adjustment (BDSA) and the ATDP. (He does not indicate which form of the ATDP was used.) The BDSA is described as a Likert type 6 alternative attitude and behavioral scale and includes 40 items which were derived from the author's experience in working with physically disabled patients and introspection about (insight to) "his own disability." A copy of the BDSA is included in the paper.

Using a Pearson product moment correlation for all 45 subjects, the relationship between the BDSA and the ATDP was reported as $-.543$ ($p < .01$). The author reports "in terms of adjustment", S's who were the least accepting of their disability (as is reflected by a high score on the BDSA) would most likely tend to perceive disabled people from being different from physically normal population (reflected by a low ATDP score). S's who were most accepting of their handicap (reflected by a low score on the BDSA) would most likely tend to perceive disabled people as not different from physically normal population (reflected by a high score on the ATDP scale). Bell was able to further divide his population into groups that were drawn from a hospitalized patient population (N=20) and another group who were non-hospitalized (N=25). These two groups were significantly different from one another on both attitudes scales beyond the .05 level. (The author points out that the non-hospitalized group had been disabled longer and from an earlier age than the hospitalized disabled group).

The author notes "what this means in terms of adjustment is that non-hospitalized, as compared with hospitalized S's are significantly more accepting of their disabilities. Furthermore, non-hospitalized S's tend to feel that disabled people do not differ significantly from non-disabled people but hospitalized people feel disabled people do differ significantly from the physically normal population."

#5 **Bell, A. H., Weingold, H. P., & Lachin, J. M. Measuring adjustment in patients disabled with alcoholism. Quarterly Journal of Studies on Alcohol, 1969, 30 (3), 634-639.**

The subjects in the study were 37 white males with an average age of 45. All were alcoholics on admission to the Alcoholic Treatment Service of the East Louisiana State Hospital. Treatment of 2 to 3 weeks duration consisted of a protein rich diet, drugs, group therapy and

attending Alcoholics Anonymous.

The Bell Alcoholism Adjustment Scale was used. It is a 40 item Likert type 6 alternative attitude and behavioral scale which was given together with an adaptation of the ATDP which Bell and his colleagues refer to as the Attitude Toward Alcoholic Persons Scale. The article does not indicate which form of the ATDP was so adapted. Focusing on the modified ATDP (actually the ATAP Scale), the author's report split-half, random-sample, and odd-even reliability coefficients of .56, .79 and .81 respectively and a test-retest reliability coefficient of .77. Instruments were administered to patients within one week of admission to the program and prior to discharge (not less than 2 nor more than 3 weeks later). Reliability values were obtained by testing an additional 50 subjects who had been seen within the first week of admission to the program. (Test-retest reliability for this group referred to data collected 24 hours after the first testing period.)

The authors grouped subjects according to prior versus no prior Alcoholics Anonymous affiliation and high versus low economic status (defined by occupation). They also compared self versus other referral and single versus multiple admissions. Using a variety of analyses of variance tests, no significant differences were found for Group effects or Group by Time interaction effects for either the BASA or ATAP scores. The author's report "however, with socio-economic status as an independent variable, a significant Group by Time interaction effect as obtained in the analysis of the ATAP scores. The only other significant effect obtained in this part of the analysis was that of Single Admissions (i.e. first admissions) versus Multiple Admissions as a function of time in the analysis of ATAP scores. They also note that " . . . a further analysis yielded a positive correlation between BASA scores and the ATAP scale scores obtained at both Time 1 (r=.62) and Time 2 (r=.40)."

They conclude "The analyses reported under the heading of validity indicate that performance on either the BASA or the ATAP score did not depend upon dogmatism scores, age, level of intellectual functioning, prior AA affiliation or referral source. . .However, the low socioeconomic groups showed a marked decrease in ATAP scores over time, whereas high socioeconomic groups did not. This finding is probably due to the fact that the initial level of performance of the low group was significantly higher than that of the high group; therefore, there was greater room for change by the low group in the direction of a more accepting attitude toward alcoholics. These analyses also indicate the performance on the ATAP scale depends on whether the alcoholic is going through the alcoholism program for the first time or not.

Performance on the BASA was directly related to the performance on the ATAP scale; high scorers on one tended to score high on the other. Assuming validity for both scales, this would mean that an attitude of acceptance would tend to be related to an attitude that alcoholics are not much different from nonalcoholics, aside from their alcoholism; and conversely, an attitude of nonacceptance would tend to be related to the attitude that alcoholics are quite different from the nonalcoholic population."

#6 Bishop, Elizabeth, S. **Attitudes toward the handicapped as related to demographic variables and past experience. Honors Elementary Laboratory Course, University of Michigan, 1969.**

The subjects for Bishop's study were 50 undergraduate psychology students at the University of Michigan, who were available through the Unpaid Subject Pool. Twenty-five of those chosen were males and 25 females. Seven were freshmen, 29 sophomores, 9 juniors and 5 seniors and the median age for both males and females was 19.

Using the ATDP Form O, Bishop found no significant difference between males and females with the males achieving mean score of 71.6 and females 74.0.

Using a measure of experience with the handicapped based on number of disabled people "known" weighted for degree of contact on the basis of closeness of relationship (i.e. friend versus student), Bishop investigated the relationship between attitudes and contact. She found

no significant difference in the attitudes of high and low contact males but a significantly more favorable attitude on the part of high contact females in comparison with those that had had relatively less contact.

In a separate analysis, ATDP scores for students who had graduated from large versus small high schools (over or under 400 students in the graduating class) were compared. The results indicated that those from large high schools had significantly more positive attitudes than those from the smaller ones.

When students were divided into those majoring or planning to major in what might be called the helping professions (i.e. psychology, social work, pre-medicine, health sciences and education) versus all other majors, a significant difference was found indicating more positive attitudes among the helping profession majors.

#7 **Buca, J. P. An investigation of the attrition and retention of physical therapy students at the University of Maryland. M.A. thesis, University of Maryland, 1967.**

The basic purpose of Buca's study was to examine a series of variables for their efficiency in predicting the retention of students in the Physical Therapy Training Program at the University of Maryland. (The attrition of students in the first two years of the program over a period of nine years was found to be approximately 76%.)

Subjects included 68 freshman and sophomore students in 1965 and 1966. These students were divided into attrition and retention groups at the end of the semester. Of these 45 were freshmen, (38 females and 7 males) and 23 sophomores, (18 females and 5 males). The Form B of the ATDP was administered at the beginning and end of the semester (approximately a 3 month interval).

Attempts were made to correlate the ATDP with a series of measures as indicated in the table below.

CORRELATION WITH ATDP

Variable	Test	Re-Test
H. S. Grades	–.03	–.08
ACT Composite	.28*	.16
ATDP Test	–	.50*
Retest	.50*	–
EII – Fine Arts	.24	.14
Applied Arts	.21	.02
Physics & Biology	–.24	–.14
Social Science	–.25*	–.13
Mathematics	–.06	–.06
1st Semester GPA	–.01	–.14

*(p 5.05) N = 68

As can be seen from the table, the ATDP was significantly correlated with the American College Test Composite score and the Educational Interest Inventory, Social Science score (both on pre-testing). It was uncorrelated with high school grades, first semester grade point average or any of the other educational interest inventory scores for this sample on pre-testing and uncorrelated with any measure at post-test.

Buca's study also investigated the differences between pre- and post-test ATDP scores for the attrition and retention groups. The mean score for the attrition group was 116.6 and 113.2 for the retention group at pre-testing. This difference was found to be significant at the .05 level using Students t. The means of post-testing were 127.9 for the attrition group and 128.8 for the retention group. This difference was not significant. In comparing difference scores for pre- and post-tests for each group separately, Buca found a significant increase in ATDP scores for both groups beyond the point of five levels. It is interesting (and somewhat inconsistent with the data on the ATDP generally) that students in the attrition group had somewhat more favorable attitudes in the pre-test situation and, that while both groups increased their scores (i.e. developed more positive attitudes towards the disabled) that there was no significant difference between the two groups on the post-test measures.

#8 **Conine, T. A. Teachers' attitudes towards disabled persons. Doctoral dissertation, Indiana University, 1968.**

Conine selected a random sample of 1000 full-time teachers employed in the public elementary schools in Indianapolis, Indiana. (The total population was approximately 3000.) A questionnaire focusing upon demographic information and a copy of the ATDP, Form O, were sent in stamped, self-addressed envelopes. Of these, all but 15 presumably reached their destination and a total of 484 usable forms were returned.

One of Conine's goals was to contribute to the normative data in the ATDP manual with data obtained from his group. Thus he reports that 374 non-disabled females received a mean score of 80.0 on the ATDP with a standard deviation = 13.71. The values for the 99 non-disabled males were a mean 75.08 and standard deviation 13.85. Conine reports that the difference between males and females is significant beyond the .01 level.

No significant difference was found between mean scores of caucasian (N=363) and negro respondents (N=99). In addition no significant differences were found when subjects were classified by age or religious affiliation.

As part of the study, the author investigated the relationship of contact with disabled persons and attitudes. Contact categories were: family, friend, co-worker, students, acquaintance or contact. He reports that significant differences were obtained between the "friend" and "family" categories and between the "friend" and "none" categories. In each case contact with a disabled friend yielded more favorable attitudes towards the disabled. Attempts to measure closeness of contact with disabled persons within categories yielded no significant difference in ATDP scores. No significant differences in ATDP scores were found when respondents were classified as to whether they had bachelors or graduate degrees; by number of years of teaching experience; areas of professional specialization, (classified into groups of kindergarten – elementary vs. special education – speech – hearing vs. physical education – health vs. others). The author observed the special education group had the highest mean but the smallest sample size and suggests that a larger sample might have increased the likelihood of rejecting the null hypothesis. No significant differences were obtained when subjects were grouped according to attendance at or exposure to formal educational presentations relating to the disabled or to disability. (For this last analysis the special education and speech and hearing teachers were excluded.)

#9 **Dickie, R. F. An investigation of differential attitudes towards the physically handicapped, blind persons, and attitudes towards education and their determinants among various occupational groups in Kansas. Doctoral dissertation, Michigan State University, 1967.**

Dickie modified Form O of the ATDP by reducing the number of response categories to 4. He then administered the revised instrument to 391 adult men and women employed in selected occupations in the state of Kansas, (primarily in the Wichita area). Of this group, 105 were directly involved in a teaching or training relationship to the physically handicapped. Another 101 were elementary and secondary teachers not necessarily involved in working with physically handicapped persons. Still another 100 were employed in the local labor force as

salaried white-collar workers, skilled laborers, clerical workers or unskilled workers. Finally a fourth group consisted of 85 executive and managerial personnel engaged primarily in industry.

In addition, to reducing the number of scoring categories the administration of the ATDP used an "intensity" scale. That is, each item was not only responded to in terms of agreement or disagreement but in terms of how strongly the subject felt about each item.

When subjects were divided into high and low frequency of contact with the disabled, no significant difference in ATDP score was found. However, when multiple correlations were computed using a variety of contact variables combined (including frequency of avoidance of contact, and, enjoyment of contact), a multiple correlation of .28 ($p < .005$) was obtained. Partial correlations indicated that avoidance of contact correlated $-.13$ ($p < .01$) with the ATDP and enjoyment of contact correlated $-.20$ ($p < .005$).

Using the Gordon Survey of Interpersonal Values no significant difference on ATDP scores was found between groups when the subjects were divided into high and low scores (near the median) on the Leadership Value scale, the Need for Recognition and Achievement Scale, and the Benevolence Scale.

Dickie found that females scored significantly higher on his modified version of the ATDP than did males.

Using a measure of Change Orientation, composed of six subscales, Dickie found two of them to be significantly correlated with ATDP scores. Specifically, change orientation with regard to "automation" correlated $-.13$ ($p < .01$) and self change orientation correlated $-.11$ ($p < .05$). The other change orientation measures of health practices, child rearing, birth control and political leadership were all uncorrelated with the ATDP. Using all six sub-measures, a multiple correlation of .18 ($p < .05$) was obtained.

Comparing his four occupational groups, Dickie found no significant differences in ATDP scores.

#10 **Downes, S. C. Attitudes towards the physically disabled as indicated in rehabilitation and non-rehabilitation groups. Doctoral dissertation, Pennsylvania State University, the Graduate School, Department of Educational Services, 1967.**

Downes administered Form A of the ATDP and several other instruments to a total of 441 persons in Pennsylvania and West Virginia. The sample was divided into six groups as follows: 100 undergraduate students from major fields of study not related to the behavioral sciences, 86 undergraduate rehabilitation majors, 54 graduate students in major fields of study not related to the behavioral sciences, 50 graduate students in rehabilitation counseling, 61 persons employed in occupations not related to the behavioral sciences and 90 rehabilitation counselors employed by the state and federal program in vocational rehabilitation. In addition to the ATDP, the Gough Adjective Check List was administered and eight scales selected for the study. These included the number of adjectives checked, the number of favorable adjectives checked, the number of unfavorable adjectives checked, and the scales of personal adjustment, intraception, nurturance, aggression and succorance.

In addition to these instruments, Downes developed a set of 100 descriptive adjectives to be rated on a six point Likert scale. The instructions were that the subject should begin the phrase "disabled people are" and then consider each adjective. Downes refers to this instrument as the Disability Attitude Adjective Scale (DAAS) and he reports a split-half reliability coefficient of .91. He also reports that the correlation between the DAAS and the ATDP with a group of 77 subjects was .675. (This latter group was used in a pilot study and consisted of 46 undergraduates from the Pennsylvania State campus and 31 high school students from West Virginia.)

When the DAAS and the ATDP were correlated in the basic study, the correlation between the two scales for the 441 subjects was .691. The data from each of the six subgroups yielded

correlations ranging from .627 for the rehabilitation counselors to .801 for the non-related employed adults.

As part of the study, Downes subjected the ATDP scores to an analysis of variance across the six groups. He found rehabilitation counselors scored significantly higher than the non-rehabilitation related group. Downes also found that groups associated with rehabilitation scored significantly higher than those generally not associated with the behavioral sciences.

In a further analysis he found no difference according to "maturity level." Although within the subgroup of rehabilitation counselors (of which 30 had masters degree in rehabilitation counseling, school counseling, psychology or social work) the group with the masters degree earned a significantly higher (more positive) score than the group without masters degree level training. Comparing undergraduate student groups, those with majors in rehabilitation scored significantly higher than those who were not majoring in areas related to the behavorial sciences. No significant differences found for the graduate students divided on this dimension.

Downes also correlated the ATDP with scales on the adjective check list using the total group. As indicated in the table below, seven of the eight scores investigated correlated significantly with the ATDP beyond the .01 level.

Correlation between ATDP and subscales of the Gough ACL

	r	Sig. Level
Number of adjectives checked	.01	N.S.
Number of favorable adjectives checked	.16	.01
Number of unfavorable adjectives checked	−.18*	.01
Personal adjustment	.22	.01
Intraception	.20	.01
Nurturance	.16	.01
Aggression	−.13*	.01
Succorance	−.19	.01

*High scores represent unfavorable attitudes.

Only the "number of adjectives checked" was uncorrelated with the ATDP. Positive relationships were found between ATDP scores and number of favorable adjectives checked, personal adjustment, intraception and nurturance. Negative correlations were obtained with number of unfavorable adjectives checked, aggression and succorance. Combining all personality scales yielded a multiple correlation of .287 with the ATDP.

#11 **Drude, K. Attitudes and opinions of counselors in training toward mentally ill and physically disabled persons. M.A. thesis, University of Illinois, 1971.**

Drude used a short biographical information sheet, the ATDP Form B, and the Opinions About Mental Illness Scale with 82 graduate students in the counseling program at the University of Illinois. Of this group 60 supplied usable data. The purpose of his study was to investigate the correlates of attitudes towards the disabled and the mentally ill.

Within his sample, 23 females achieved a mean ATDP score of 126.6 and a standard deviation of 18.9. The 37 males had a mean of 126.8 and a standard deviation of 19.6. Drude's analysis indicated that there were no differences between the sexes.

Drude's sample failed to show differences in ATDP scores along a number of dimensions recorded on his biographical inventory sheet. These included the following: marital status, active religiousity, formal religious training, disabled vs. non-disabled, the presence of disabled members in the family, experience in a mental hospital, a family member in a mental hospital, amount of professional experience and age. While some of these variables have yielded differences in ATDP scores in other studies, it should be pointed out that in certain cases the number of subjects per cell in Drude's study was quite small.

In addition to attempting to find differences in attitudes towards the disabled, along demographic dimensions, Drude correlated the ATDP with each of the five sub-scales of the Opinions Toward Mental Illness Scale with the following results. Factor A (authoritarianism) correlated $-.49$ ($P < .001$). Factor B (benevolence) correlated $+.10$ (not significant). Factor C (mental hygiene ideology) correlated $+.42$ ($P < .001$). Factor D (social restrictiveness) correlated $-.45$ ($P < .001$). Factor E (interpersonal eteology) correlated $-.08$ (not significant).

#12 Dunteman, G.H., Anderson, H.E., Jr., & Barry, J. R. Characteristics of students in the health related professions. University of Florida Rehabilitation Research Monograph Series #2, June 1966.

As part of a larger study Dunteman and his colleagues administered Form O of the ATDP to 4 groups of white female students (predominantly freshmen and sophomores) enrolled in a course called Introduction to the Health Professions. Students were asked to state their preference for occupational therapy, medical technology or physical therapy. Those not expressing a preference for one of these fields were put into another group called "others." The final sample included 31 identifying with physical therapy; 41 with medical technology; 19 with occupational therapy and 71 "others."

An analysis of variance was performed using ATDP scores with no significant differences found between the groups. The hypothesis was that occupational therapists and physical therapists would have more favorable attitudes towards other groups and this hypothesis was rejected.

The authors note "It is possible that this scale is not actually measuring what it was designed to measure. Rather, it might be measuring the degree to which people view the disabled person as different from the normal individual." Yuker and Block designed the ATDP to tap exactly this dimension.

#13 Durfee, R. Personality characteristics and attitudes toward the disabled by students in the health professions. Rehabilitation Counseling Bulletin, Vol. 15, #1, Sept. 1971, 35-44.

Durfee administered Form B of the ATDP to first year graduate students in a number of academic programs. All students were recruited on a volunteer basis. The final sample consisted of 12 in medicine, 38 in psychology and 35 in social work. He reports an additional comparison group of 35 engineering students representing students in areas outside of the health professions. In addition to the ATDP, all subjects were administered the Myers-Briggs Type Indicator. This instrument is described by the author as a psychometric device specifically designed to measure Jungian personality characteristics. According to the author, product moment correlations between each of the scales on the Myers-Briggs Type Indicator (specifically introversion, sensation, thinking and judgment) were uncorrelated with the ATDP. Durfee divided his subjects by sex and occupational group. However, there were no females in the engineering group and only two in the group studying medicine. The Psychology and social work groups were approximately equal in sex distribution. For the females, psychology majors scored significantly higher than social work majors or those in medicine. (It should be recalled that there were only two females in the medicine group.) For males, psychology majors scored higher than the medicine majors but not significantly different from those in social work. Data was not reported for the male comparisons in engineering although the mean for this group is

the lowest of the four academic categories. Since the sample size for males is larger for engineering than any of the other groups it seems reasonable to assume that psychology majors scored significantly higher than did the engineering majors. The author does report that there were no significant differences for male ATDP scores, between engineering and either medicine or social work majors.

#14 **English, R. W., & Oberle, J. B. Toward the development of new methodology for examining attitudes toward disabled persons. Rehabilitation Counseling Bulletin, Dec. 1971, 88-96.**

English and Oberle attempted to investigate whether significantly different attitudes toward the physically disabled existed between members of occupations placing high emphasis on physique and members of occupations placing a low emphasis on physique (physique was defined as "an individual's body with reference to its structure, constitution, appearance, and strength").

The Dictionary of Occupational Titles was used to select occupations placing an emphasis on physique either in terms of function (that is, physical demands necessary to enter and perform occupational tasks successfully) or social criteria (external features such as appearance necessary for successful entry and performance of occupational tasks). After a preliminary selection of ten groups believed to be high in emphasizing physique and ten more low on the same dimension, the descriptions of each occupation were rated by three psychiatrists from an out patient psychiatric clinic in New York. An agreement was obtained with regard to the categorization of two occupations.

The group rated high on the dimension of importance of physique in one's occupation was airline stewardesses. The group rated low were typists. Both groups were selected from all of the employees of a major airline and a major industrial concern in New York, respectively, using stratified random sampling technique. Both groups were approximately of the same age, educational level and none had any known physical disabilities. The samples used were 100 females, 50 from each of two occupation groups.

The ATDP Form B was administered to both groups. The mean for the airline stewardesses was 101.96 with a standard deviation of 18.55. For the typists, the mean was 125.54 with a standard deviation of 21.41. The difference in means was significant beyond the .001 level. The authors report using a one tail test because the hypothesis was stated in a directional manner. The mean for the airline stewardesses fell approximately at the 26th percentile for non-disabled females and the ATDP norms. In contrast, the mean for the typist fell at approximately the 74th percentile. The authors note "the research hypothesis was supported, i.e., that typists, members of an occupational group that places low emphasis on physique will display more positive attitudes toward the physically disabled than airline stewardesses, members of an occupational group that places high emphasis on physique."

#15 **Janicki, M. P. Occupation and attitudes toward perceived disabilities, Masters thesis, State University of New York at Albany, 1969.**

Janicki administered Form O of the ATDP to 88 hospital professionals and workers at the Albany Veterans Administration Hospital. The subjects included 50 males and 38 females. Samples were selected from occupational categories which the author characterized as "thing-oriented" (e.g. skilled tradesmen, chauffeurs, machinists, etc.) and those who were "people-oriented" (physicians, psychologists, nurses, etc.). A list of twelve disabilities were categorized into three groups of four each and defined as "cranial" disabilities (e.g. blindness, facial disfigurement, etc.) "limb" disabilities (e.g. amputated arm, arthritis, etc.) and "neutral" disabilities (e.g. asthma, diabetes, etc.). Sixty-six pairs of disabilities were formed and subjects asked to state which they would "least prefer to have." Janicki found no significant difference between people vs. thing-oriented occupations in "preference for disability," nor was there a difference in ATDP means between the groups. The author does report that females scored significantly higher on the ATDP than did the males.

#16 ***Jordan, J. E., & Boric, A. Attitudes toward physically disabled persons in Yugoslavia. Unpublished manuscript. Undated.**

Jordan and Boric translated the ATDP Form O into Croatian and administered it to 192 Yugoslavian nationals. These were divided into four occupational subgroups. Specifically, a group of special education and rehabilitation personnel (16 male, 31 female), a group of regular teachers (19 male, 21 female), managers (35 male, 11 female) and laborers (34 male, 25 female).

The major purpose of the study was to see whether or not there were significant differences as a function of contact with the disabled. The measure of contact and experience with handicapped persons was one developed by Friesen in an unpublished doctoral dissertation at Michigan State University in 1966.

The authors report that a Guttman type intensity measure was added to each item in the ATDP.

The authors report no significant relationship between amount of contact and ATDP with or without the "intensity" score involved. However, they note "the combined contact variables were effective in predicting favorable attitudes toward disabled persons. With an N of 174, the multiple of "R" of .28 was significant at the .005 level. The partial correlations between positive attitudes toward the disabled and amount of contact, enjoyment of contact, and possibilities of avoiding contact were $-.01$ (ns), $-.22$ ($p < .01$), and $-.22$ ($p < .01$) respectively."

When comparing the four occupational groups it was found that the laborer group was significantly more negative in attitudes towards the disabled than any of the other three groups with the others not differing among themselves.

#17 **Jordan, J. E., & Cessna, W. C. A comparison of attitudes of four occupational groups toward education and toward physically disabled persons in Japan. Unpublished manuscript. Undated.**

Jordan and Cessna administered the ATDP Form O to 211 adults employed in various occupations in Tokyo, Japan. Four occupational subgroups were included in the sample. Specifically, a group of special education and rehabilitation personnel (n=50), a group of regular teachers (n=41), managers and/or executives (n=84) and finally, white collar laborers (n=36). There were 113 males and 98 females in the sample.

According to the study, no significant differences were obtained between occupational subgroups or between male and female subsamples.

The senior author has done much cross cultural research with the ATDP reports in this paper on the normative differences for the special education and rehabilitation subgroups in terms of their scores on the ATDP. He notes "the Japanese sample was more positive and modern than the Peruvian sample but less positive and modern in their attitudes towards handicapped persons than the Columbian or United States samples."

**Jordan and his associates have conducted a large number of cross cultural studies using the ATDP. Usually the ATDP has been translated into the language of the respondent. In several of the abstracts which follow, the only available reference is a mimeographed paper. The interested reader can receive copies of this paper by writing to Human Resources Research and Training Institute. Since the references which follow are part of a large program of research, Dr. Jordan may be able to provide more current information than is available in these pages.*

#18 Jordan, J. E., & Chigier, E. Attitudes toward education and disabled persons of three occupational groups in Israel and their counterparts in eleven nations. Unpublished manuscript. Undated.

Jordan and Chigier administered the ATDP Form O translated into Hebrew to 204 Israeli nationals divided into three occupational subgroups. The first consisted of 60 persons employed in special educational rehabilitation, the second was a group of regular teachers (n=48), and the third a group of 96 "managers." The ATDP items were also responded to in terms of "intensity" of feeling about the statement.

According to the authors, a number of countries were categorized as "modern," "transitional" or "traditional." Included in the "modern" category were the United States, England, Holland, France, Denmark, and Japan. The "transitional" countries were Israel and Yugoslavia, and the "traditional" countries were Columbia, Costa Rica, and Peru.

According to the authors, "on favorable attitude towards the disabled, the Israeli special education and rehabilitation samples scored lower (low ATDP scores indicate positive attitude) than the modern nations, but did not score higher than traditional nations."

In this paper Jordan and Chigier present a table of inter correlations for the ATDP and the traditional attitude to education and the progressive attitude of education subscales developed by Karlinger. This information is summarized in the table below.

Correlations On Three Attitude Scales For Three Occupational Groups[1]
In Israel As Compared To Ten Other Nations

MODERNITY Type	Country	Spec. Ed. & Rehab. (SER) N	HP TC	HP PC	TC PC	Teachers (E) N	HP TC	HP PC	TC PC	Managers (M) N	HP TC	HP PC	TC PC
Modern	U.S.	104	07	–13	–08	101	–07	–28**	13	87	12	–18*	03
	England	22	53	04	–02	24	65	–55*	–57*	18	48	–12	–32
	Holland	48	–18	–11	21	59	10	04	08	64	06	–10	21
	France	68	17	02	03	53	26**	–02	08	47	51**	03	20
	Denmark	44	08	01	–24*	47	05	–04	09	30	30*	24	31*
	Japan	50	28	07	23*	41	–14	–21	38**	84	06	04	29**
Transitional	Israel	60	28*	17	26*	48	–28*	–30*	33**	93	–04	05	34**
	Yugoslavia	46	–30*	–09	49**	31	–03	07	25	43	–03	–30*	17
Traditional	Colombia	57	34**	00	22*	117	27*	06	45**	–	–	–	–
	Costa Rica	63	26*	16	36**	114	31**	06	16	47	16	–06	38**
	Peru	30	–27	–32	26	290	15	04	24	63	02	–06	23

* = $p < .05$

** = $p < .01$

[1] HP = attitude to handicapped
TC = traditional attitude to education
PC = progressive attitude to education

#19 **Jordan, J.E., & Friesen, E. W. Attitudes of rehabilitation personnel toward physically disabled persons in Columbia, Peru and the United States. Journal of Social Psychology, 1968, 74, 151-161.**

The authors report that this study was the first of the projected series of reports written on an 11 nation study of attitudes towards the handicapped and education at a social institution. The full study consisted of samples from Columbia, Costa Rica, Peru, Belgium, Denmark, England, France, Holland, Japan, Yugoslavia, and the United States. This large project was under the direction of Dr. Jordan.

The present study involved professionals in the areas of special education and rehabilitation. A total of 103 subjects were employed in these areas in Wichita, Kansas. Of these, 22 were male and 81 female. The sample from Columbia consisted of 20 males and 47 females from Bogota. The sample from Peru was obtained in Lima where the 38 subjects included 26 males, and 12 females. The authors noted that the Columbian and Peruvian samples comprised most of the professionals in those countries and thus were assumed to be relatively representative of the nation itself. They acknowledged that the U.S. sample could at best be representative of the area in which Wichita, Kansas is located.

The ATDP O Form was translated into Spanish separately in Columbia and Peru in order to account for possible local language differences. In addition to the ATDP, a Guttman type "intensity" measure was added to each item.

Jordan hypothesized that positive attitudes toward the disabled are more characteristic of developed "or modern" countries and physical disability is more handicapping in agrarian societies. On the other hand, he argued mental retardation is more handicapping in highly developed (i.e. mechanized) nations. Among his predictions, therefore, Jordan suggested that the most positive attitudes would be found in the U.S., the next most positive in Columbia, and least positive in Peru. Using an analysis of variance significant differences were found beyond the .005 level supporting the hypothesis. A similar finding was obtained for the intensity responses to the ATDP.

The authors also reported that female subjects differed on intensity of attitudes both between nations and latin vs. U.S., but male subjects did not.

The authors report "generally, the data supported the hypothesis that the disabled are viewed more positively in modern than traditional societies."

#20 **Lazar, A. L., Gensley, J. T., & Orpet, R. E. Changing attitudes of young mentally gifted children toward handicapped persons. Paper presented at the California Educational Research Association, 1970.**

In this study, Lazar et al selected two groups of mentally gifted children matched for I.Q. and chronological age. One group and their teacher were designated the experimental group and received a special instructional program developed by the teacher. The second group (the control group) and their teacher engaged in no discussions of the handicapped. Both were administered the Form O* of ATDP four weeks apart during which time a special workshop was conducted on a college campus for the children. The sample consisted of 21 (17 males and 4 females) in the control group and 23 (15 males and 8 females) in the experimental group. The ages of the children ranged from 8 years and no months to 8 years and 8 months with I.Q. ranges from 123 to 163.

The teacher of the experimental group prepared a special unit on Creative Americans some of which were handicapped (e.g. Thomas A. Edison, hard of hearing; Helen Keller, multiple handicap; Franklin D. Roosevelt, polio, etc.). Personal characteristics including handicaps were

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* The word "physically" was omitted from item 2 on the scale.

treated as incidents not of major importance. In addition, special guests were invited to join the class on a weekly basis. One was a teacher of educable and mentally retarded children who brought pictures of her class in various learning activities. Other visitors were a family in which the parents were deaf but the young children had normal hearing ability. The experimental group practiced the manual alphabet before the family came. A young teen-age couple addressed the group about their work as aides in a convalescent hospital and after the presentation, revealed that they were both epileptic and proceeded to discuss how their epilepsy was controlled with medication. Still another visitor asked the children to guess how she was handicapped and subsequently revealed that she was legally blind.

Comparing pre and post ATDP scores an increase was obtained for the experimental group which was as significant at the .05 level using a one-tail test. The control group experienced an insignificant decline over the same period of time.

Since the ATDP is not usually used with young children the author noted that the examiner received answered questions concerning the meaning and applicability of specific statements on the ATDP.

#21 **Lazar, A. L., Orpet, R. E., & Fogg, W. E. Sex differences in the distribution of attitudes toward handicapped individuals on the part of selected college subjects. Paper presented at the California Education Research Association, San Diego, Calif., 1971.**

Lazar and his colleagues administered Form O of the ATDP to 100 male and 100 female students attending educational psychology classes during the summer session at a state college in California. In addition to the ATDP, the Preferred Student Characteristic Scale (PSCS) was administered. According to the authors "the PSCS contains 36 paired choice items that permit the expression by teachers or future teachers of certain attitudes towards students in terms of affective or cognitive educational goals." Students were then classified on the PSCS according to three sub-groups classified as to "affective," "affective-cognitive" or "cognitive." By far the greatest number (almost 2/3) were classified as the affective-cognitive category.

While the authors report a significant difference in ATDP scores between sexes, they report this difference at the .06 level. In the studies reported in this monograph and the earlier one by Yuker, Block and Younng, the .05 level has been used for the rejection of the null hypothesis. No significant difference was obtained among the three groups on the PSCS in terms of ATDP scores.

#22 **Lazar, A. L., Orpet, R. E., & Revie, V. A. Sex differences in attitudes of young male and female gifted youngsters toward handicapped individuals. Paper presented at the California Education Research Association Meetings, 1971.**

Lazar, et. al, modified Form O of the ATDP by deleting the word "physically" from item #2 "so as to avoid a response set on the part of the respondents." This "modified" form was administered to 15 male and 15 female children with IQ's ranging from 126 to 163. No significant difference in IQ between males and females was found. (The average age was just under 8-1/2 years.) According to the authors, "all written instructions of the test items were read by the senior author during the administration of the test, while the students read the same in silence. This was done to reduce any questions that might arise should the student not know a word. After the administration of the test, it was realized that the oral reading was not necessary."

The only comparisons made were in the mean scores of the males versus females. Females were found to score significantly higher on the ATDP than did the males ($p. < .05$).

#23 **Mader, J. B. Attitudes of special educators toward the physically handicapped and toward education. Doctoral dissertation, Michigan State University, 1967.**

Mader modified Form O of the ATDP by reducing the number of response categories to four. This instrument and a number of others were administered to 316 educators specializing in a particular area of special education. The instruments were administered during a series of summer workshops held throughout the state of Michigan. The specific sub-specializations were: teachers of the educable retarded, teachers of the trainable retarded, visiting teachers, diagnosticians, teachers of the visually handicapped, teachers of the auditorily handicapped, and speech correctionists.

The author reports an approximation of a "intensity function" by asking "How strongly do you feel about this?" followed by response categories of very strongly, fairly strongly, and not so strongly. Presumably such items followed each of the ATDP content items.

Mader reports that when subjects were grouped according to those who had high intensity scores on the ATDP as compared with those who had low intensity scores there was no significant difference of frequency of contact with the physically disabled.

Mader also found no significant difference in ATDP scores between subjects who scored high versus low on the need for recognition and achievement as measured by the appropriate subscales on the Gordon Survey of Personal Values. A similar lack of significance was found for differences between high and low scores on the Benevolence subscale of the same instrument.

The author found no sex differences on his modified version of the ATDP.

In addition, Mader correlated the ATDP (in its modified form) with a series of attitudes towards Change Orientation in the areas of health practices, child rearing, birth control, political leadership and self change, respectively. In each case no significant relationships were obtained. The author also investigated possible mean differences in ATDP scores for the various subsets of educational specialties and found no significant differences.

#24 **Manus, G. I., & Manus, M. R. Opinions on help and attitudes toward disabled persons by special education students. Program Abstracts, American Personnel & Guidance Association, March 1973.**

Over a two semester period Manus and Manus administered Form B of the ATDP to 146 students at the beginning and end of a graduate course in "Exceptionality." In addition, students completed a scale developed by the authors known as the "College Facilities for the Handicapped Opinionnaire" (CFHO). They note that the latter scale "measures four basic factors: privilege, ability, isolation and the attitude of non-disabled persons toward disabilities." Scores indicate an inverse relationship between help proferred to the handicapped and favorable attitudes, i.e. if "much help" is perceived as needed, attitudes are described as "negative."

A correlation between the two scales of $-.22$ was obtained ($p. < .01$) with the authors concluding:

"The ATDP thus seems to represent a generalized attitude and the CFHO seems to reflect a "perception of competence" scale in regard to the disabled person. The CFHO scale therefore produces high scores for those who believe the disabled person needs a great deal of help; it appears to be associated with a less favorable attitude toward the disabled person as measured by the ATDP."

#25 **McCarley, D. G. The effect of irrelevant communicator characteristics on alcoholics. Master's thesis, University of Alberta, 1969.**

McCarley made use of the ATDP by modifying the items so that they focused on the concept "alcoholic" rather than "disability." In addition the form was reduced to 18 items by

deleting those items which referred to children.

The subjects for McCarley's study were 104 male alcoholics involved in treatment within the Division of Alcoholism in the Dept. of Health for the Government of Alberta. These subjects were divided into two groups of 52 each. The mean age of the experimental group was 39.4 and 39.9 for the control group. The length of alcoholism in the experimental group was somewhat shorter than in the control group ranging from 1 to 23 years with a mean of 8.3 while the control group ranged from 1 to 25 years with a mean of 10.2.

McCarley administered his modified version of Form O of the ATDP after first administering Forms A and B using the following procedure.

Form A was administered first with subjects led to believe that they were participating in a large scale study of how alcoholics felt about the physically disabled. The subjects were told that the test had already been given to a large number of alcoholics in Eastern Canada. They then proceeded to complete the Form A in a conventional manner. Following completion of Form A they were told "the first answer sheet you completed was given for a 'warm up' or practice. This answer sheet you are asked to fill in will be used as a measure of your true attitudes.

"The purpose of this research is to discover how people's attitude toward the physically disabled compared. It is known that different people have different attitudes toward the physically disabled. On the following two pages there is a short description of one person and how he answered the attitude scale. Just read his answers over and see what his attitudes are, then mark in your attitudes in the space provided on the blank attitude scale Form B."

Following these instructions the respondent was told either that the sample of the ATDP which had already been filled out was completed by a "typical or average Eastern Canadian alcoholic" or "typical or average Eastern Canadian." These completed answer sheets were judged to be either a "favorable communication (i.e. a score of 150) or an unfavorable communication (a score of 60)." Thus, four experimental cells were created with an apparent communication from an Eastern Canadian alcoholic or an Eastern Canadian with either a favorable or unfavorable communication. After reading these "communications" the subject filled out Form B of the ATDP and this in turn was followed by the modified version of Form O (modified to focus on the "alcoholic").

Following administration of the three scales, the author reports that "difference scores" were calculated for each subject. This was done to measure the effectiveness of the communicator in influencing the subject's attitude by comparing the difference between the subject's scores on Form A and B. McCarley notes: "it was possible to determine whether a subject was persuaded in the direction of the communicator's message or in the direction opposite from the message." Thus, he notes "for subjects who received the favorable communication scores on A were subtracted from scores on B. When an unfavorable communication was given, scores on B were subtracted from scores on A."

Dividing the modified Form O (Attitude Toward Alcoholic Persons Scale) at the median (a value of 49), subjects scoring above the median were defined as having perceived alcoholics as being similar to non-alcoholics; those below the median were defined as having perceived alcoholics as being different from non-alcoholics. Using this dichotomy a three way analysis of variance was performed in a 2 x 2 x 2 design. The three factors were the message communicated (favorable – unfavorable); the characteristic of the "communicator" (alcoholic – non-alcoholic); and, the subject's score on the attitudes toward alcoholics (perceived as similar or perceived as different).

According to the author "the analysis of variance revealed that the amount of attitude change for those who viewed alcoholics as dissimilar to non-alcoholics was not significantly different than those who view alcoholics as similar to non-alcoholics. No significant main effects were found with regard to the direction of communication, i.e., whether the communicator gave a favorable or unfavorable communication. The source of the com-

munication effect (alcoholic or non-alcoholic) was significant at the .05 level. Only one significant interaction was obtained and that was involving the direction of the communication and the source of the communication."

An examination of the interaction indicated that an alcoholic is more effective than an non-alcoholic in influencing the audience of other alcoholics toward his position if he delivers an unfavorable communication. It was also found that if a non-alcoholic communicator delivers an unfavorable communication the audience will not be persuaded in the direction of the communication but will in fact change their attitudes in the opposite direction from the position advocated by the non-alcoholic communicator.

#26 **Moses, H. A., Rubin, S. E., & Turner, J. Relationship of Attitudes Toward the Disabled with Demographic Information and Personality Measures. Discussion Papers, Arkansas Rehabilitation Research and Training Center, University of Arkansas, Vol. 3, #5, undated.**

Eighty-one graduate students enrolled in three sections of the graduate level introductory counseling course at a large midwestern university were administered a series of questionnaires including Form B of the ATDP. Specifically, in addition to ATDP the Marlowe-Crowne Social Desirability Scale and the Ewing Self-Ideal Self Scale were completed.

Additional information included subject's age (which was subsequently divided into two groups with those falling above and below 30 years of age), religious preference (Catholic versus Protestant), sex, marital status, and finally, the size of the community from which the respondent came. (This latter variable was divided into four factors, those coming from communities under five thousand, between five thousand and 20 thousand, between 20 thousand and 100 thousand, and over 100 thousand.) No significant differences were obtained on any of the demographic measures (i.e., age, religious preference, sex, marital status, and community size).

The Ewing Self-Ideal Self scale correlated $-.03$ with the ATDP (not significant) while the Marlowe-Crowne Social Desirability scale correlated .23 with the ATDP ($p. < .05$). The authors note "the significant correlation between the MCSD and the ATDP scores suggest that knowledge of one's level of 'need for social approval' would be of some value for predicting one's attitudes toward the disabled." However, the correlation was a positive one, whereas, as stated earlier in this paper, a negative one seemed more logical. Possibly, the high MCSD S's were better able to determine the socially desirable response than were the low MCSD S's. (High scores on the MCSD indicate relatively greater need for social approval.)

#27 **Noonan, J. R., Barry, J. R., & Davis, H. C. Personality determinants in attitudes toward visible disability. Journal of Personality, 38, 1, 1970, 1-15.**

Noonan, et el, used a sample of 240 college females who were students in beginning psychology courses. Form A of the ATDP was modified by adding the following statement to the directions. "The terms 'disabled persons' or 'disabled people' in the following statements refer to individuals with one of the following disabilities: amputation, facial disfigurement, or wheelchair confinement. No other physical disabilities are implied." This modification was undertaken since the investigators were specifically interested in those visible disabilities.

The ATDP and a variety of other measures were administered at one time. Subjects were randomly divided into an "initial" sample of 150 subjects and a "cross validation" sample of 90 subjects. The authors report "interactive hypotheses were developed through the use of the moderator variable approach. With this technique it is possible to obtain estimates of the relationship between a predictor and criterion under several moderating conditions. In this study, each predictor was used as a moderator for every other predictor. Thus, in addition to the overall matrix, 180 subgroup correlations (90 for each criterion instrument) were obtained. Each significant subgroup correlation was then restated as an interactive hypothesis to be examined in the cross-validation sample. A canonical correlation was also computed. It was felt

that this technique would clearly demonstrate which measures (and hopefully which corresponding variables) were more valid as predictors of attitudes toward disability, thus enabling one to evaluate the respective theoretical approaches to some degree."

Correlations were obtained between the ATDP and the following measures:

1. Cultural conformity as measured by the Bass Social Acquiescence Scale.
2. Ego strength as measured by Baron's Ego Strength Scale.
3. Authoritarianism as measured by the California F scale.
4. Field independence as measured by the Barratt-Fruchter Chair Window Test.
5. Body satisfaction and body concern as measured by the Body-Cathexis Scale and the Homonym Test.
6. The social desirability variable as measured by the Marlowe-Crowne Social Desirability Scale.

Looking at the correlations for each of these measures or the initial sample (n=150) and the cross validation sample (n=90) the following correlations were obtained with the ATDP:

MEASURE	INITIAL SAMPLE	CROSS VALIDATION SAMPLE
Bass Social Acquiescence Scale	–.09	.24 ($p < .05$)
Baron's Ego Strength	.23 ($p < .01$)	.10 ns
Authoritarianism	–.33 ($p < .01$)	–.32 ($p < .01$)
Barratt-Fruchter Chair Window Test	.20 ($p < .05$)	.02 ns
Body Cathexis Scale	.20 ($p < .05$)	–.08 ns
Homonym Test	–.02 ns	–.08 ns
Marlowe-Crowne	.22 ($p < .01$)	.12 ns

Inspection of the table above indicates that the only measure which correlated significantly with the ATDP on both the initial and cross validation samples was the California F Scale. The only instrument that failed to correlate (at least at the .05 level) with either sample was the Homonym Test of body concern.

#28 **Novick, Barbara J. The relationship between experience and attitudes toward the physically disabled among Physical Therapists. Master's Thesis, California State College at Los Angeles, March 1972.**

Novick administered Form B of the ATDP and a brief biographical questionnaire to 58 students in Physical Therapy and 115 practicing Physical Therapists in Los Angeles County. In the majority of cases she administered the forms herself but in a number of situations the forms were administered by the "director" of a particular school or hospital. In most hospitals and schools, all subjects participated, but again in a limited number of cases "volunteers" only completed the forms.

Sex differences, significant beyond the .001 level were found with 140 females achieving mean scores of 111.6 (S.D.=18.5) and 33 males achieving a mean of 105.6 (S.D.=14.1). Novick also compared these means with the sex norms in the ATDP monograph and found no significant difference for females, but males scored significantly lower than the normative values ($p. < .05$). The author notes, however, that males tended to be underrepresented in her sample.

When students were compared to P.T.'s with varying amounts of experience, no significant differences were found using ANOVA.

On the basis of subjective feedback from her subjects; Novick noted "Physical Therapists find it difficult to respond to the ATDP scale because numerous generalizations contained in the items are inconsistent with their experience."

#29 ***Palmerton, K. U., & Frumkin, R. M. Contact with disabled persons and intensity of counselors' attitudes. Perceptual and Motor Skills, 1969, 28, 434.**

College counselors' attitudes toward education considered a determinant of attitudes toward disabled persons. Perceptual and Motor Skills, 1969, 28, 441-442.

Type of contact as a factor in attitudes of college counselors toward the physically disabled. Perceptual and Motor Skills, 1969, 28, 489-490.

College Counselor knowledge about and attitudes toward disabled persons. Perceptual and Motor Skills, 1969, 28, 657-658.

Palmerton and Frumkin mailed questionnaires to 130 college counselors who were listed in APA or APGA directories and were employed in colleges having student populations of 15,000 or more. From this initial mailing, 81 usable returns were obtained. The authors report different sets of results in each of the four references cited above. The authors do not state which form of the ATDP was used but based on mean values cited in the fourth reference it appears that it was Form O.

In the first reference, intensity of feelings statements were related to each ATDP item and these factors in turn related to frequency of contact with disabled persons (high vs. low). This measure was related to the hypothesis that regardless of whether one's attitudes were favorable or unfavorable they would be more intense with high frequency contacts. The hypothesis was supported with a significant difference at the .0005 level.

In the second reference subjects were classified as high or low on Kerlinger's Traditional and Progressive Attitudes Toward Education Scales. Means of the ATDP when groups were classified as traditional or progressive were not significantly different from one another.

In the third reference, ATDP scores were correlated with amount of contact (.12) avoidance of contact (.38; $p. < .01$) alternative to contact (.10); (ns) enjoyment of contact (.39; $p. < .10$) and a multiple correlation of these variables (.59; $p. < .01$). The authors note "partialing out ease of avoidance and enjoyment of contact showed that they contributed most to predicting attitudes towards disabled persons."

In the final reference, a modified general information inventory designed to assess knowledge regarding disabled persons was used. When subjects were grouped into relatively high and relatively low knowledge, no significant differences in ATDP scores were obtained.

#30 **Siller, J., Ferguson, L. T., Chipman, A., & Vann, D. H. Studies in Reactions to Disability, XI: Attitudes of the nondisabled toward the physically disabled. New York University School of Education, 1967.**

The overall goals for the study by Siller and his colleagues were (1) to examine the relationship of specific personality characteristics to attitudes toward disability; (2) to describe differential reactions to various disabilities; and (3) to analyze components of attitudes toward the disabled. The primary focus of each of these goals was the attitude of the nondisabled person.

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*This abstract covers four short articles by the authors. The same instrument and samples were used in all four reports.

The samples used included 284 college students, 229 high school students and 235 students in junior high school.

> Siller notes: "The population was almost entirely white and mostly of middle socio-economic status. The sexes were fairly evenly divided. Subjects were tested during a regular session of their classes. They were informed of the nature of the study and a non-defensive test atmosphere was promoted. Subjects responded anonymously." Siller also reports: "In the allotted time, 47 of the 235 junior high school students were able to complete protocols that could be scored for seven additional variables. In view of the relatively large number of subjects in each group (over 200 for each) relatively low correlations are sometimes significant."

The study used the ATDP Form O and a large number of personality and response set measures. These included a Social Distance Scale with six possible relationships varying in intimacy from speaking acquaintance through spouse. The subject was required to indicate "all of those to which he would admit disabled persons." A Feeling Check List (FCL) in which the subject checked one of seven listed reactions to the disabled which he believed to apply to his feelings. These reactions ranged from very uncomfortable through attracted. A measure of disability familiarity in which the subject indicated the extent of his contact with the handicapped on a three point scale.

The response set measures included the Marlowe-Crowne Social Desirability Scale, the Edwards Social Desirability Scale, the Couch-Keniston Agreement Response Set (ARS), the Fulkerson Acquiescence Scale, an overall agreement scale for adjectives (OAS:ACL), the number of "true" responses to MMPI type statements, the Grigg and Thorpe Adjective Check List Deviants.

MMPI type scales included a 39 item measure of anxiety developed by Welsh and a 40 item measure of repression or defensiveness scale. The Baron Ego Strength Scale was also used as was the Zaks-Walters Hostility Scale. The Maslow Security-Insecurity Inventory (the first 25 of the 75 items were administered), the Couch-Keniston Low F Scale were also included. Among the adjective checklist measures were the Zuckerman Affect Adjective Checklist and the Berdie Femininity scale. The Shippee-Blum Self Acceptance Scale and a large number of subscales from the Gough Adjective Checklist.

Obviously a detailed review of the interrelationships of so many measures would be out of place in an abstract. Thus Siller et al findings are presented using modifications of the tables in the original study. The table on page 20 presents their major correlations with the ATDP.

According to the data presented, the Baron Ego Strength Scale correlated significantly beyond the .05 level for all three groups. The Welsh Anxiety Scale similarly showed significant negative correlations which reached the .01 level for both groups, but only the .05 level for the college groups. The Welsh Repression Scale was not significantly correlated with either the junior high or college groups but did reach a correlation significant at the .05 level for the high school groups.

The Zaks-Walters Hostility Scale was not significantly related to the ATDP for the junior high school group but had a negative and significant correlation at the .05 level for the college group and the .01 level for the high school students.

Maslow's Security and Insecurity Inventory was given only to the group of 47 students at the junior high school level who had sufficient time to complete it, and here there was no significant relationship. However, for the high school and college students the correlation between the instrument and the ATDP was significant (at the .05 level for the high school students and the .01 level for the college students).

The Marlowe-Crowne Social Desirability Scale was not significantly related to the ATDP for the subsample of junior high school students nor was it significant for the college population. For the high school students, however, the ATDP and this instrument were significantly correlated beyond the .01 level.

CORRELATIONS BETWEEN ATDP AND
OTHER INSTRUMENTS

	Jr. H.S. N=.235	Jr. H.S. N=47	H.S. N=229	College N=283
Baron Ego Strength	.14*	–	.15*	.14*
Welsh Anxiety	–.24**	–	–.24**	–.14*
Welsh Repression	–.03	–	.15*	–.05
Zaks-Walters Hostility	–.13	–	–.24**	–.12*
Edwards Social Desirability	.20**	–	.22**	.15**
Fulkerson Acquiescence	–.10	–	–.29**	–.07
Overall Agreement Score: ACL	–.16*	–	–.24**	–.13*
Maslow Security-Insecurity	–	.26	.15*	.17**
Marlowe-Crowne Social Desirability	–	.18	.25**	.09
Couch-Keniston Low F	–	–.19	–.21**	.01
Couch-Keniston Agreement Response Set	–	–.23	–.25**	–.16**
Zuckerman Affect Adjective Check List	–	–.32*	–.09	–.15**
Shippee-Blum Self-Acceptance	–	–.02	.08	–
Overall Agreement Score: MMPI	–	–.17	–.05	–.10
Sex	.08	–	.22**	.12
Berdie Femininity	–	–	–	.16**
Grigg-Thorpe ACL Deviance	–	–	–	–.12*

* $p < .05$

** $p < .01$

The Edwards Social Desirability Scale was correlated beyond the .01 level for the ATDP for all three groups.

The Couch-Keniston Low F Scale was uncorrelated with the ATDP for both the subsample of junior high school students and the college population. However, there was a significant correlation beyond the .01 level for the high school students. The Couch-Keniston Agreeing Response Set Scale showed a significant negative correlation at the .01 level for both the college and high school students but this value did not reach significance for the smaller subsample of the junior high school students.

The Fulkerson Acquiescence Scale showed no correlation of the ATDP for both the college and junior high school students but reached significance at the .01 level for the high school students.

The Zuckerman Adjective Checklist showed significant negative correlations for both the junior high school subsample (.05 level) and the college (.01 level) but was not significantly correlated with ATDP scores for the high school students.

The Berdie Femininity Scale was apparently administered only to the college population and showed a significant relationship with the ATDP beyond the .01 level.

The Shippee-Blum Self Acceptance Scale was administered to both the subsample junior high school students and the high school population and neither group yielded a significant correlation with ATDP scores.

The overall agreement score for the MMPI showed no significant relationship for the subsample of junior high school students nor for the sample of high school and college students. However, the overall agreements score for the adjective checklist showed significant correlations for all three groups with the correlation achieving significance at the .05 level for both the full sample junior high school students and college students in reaching the .01 level for the high school students.

There was a correlation for sex and ATDP scores for the college and high school students, but not for the full sample of junior high school students.

In addition to the foregoing measures the Grigg-Thorpe ACL deviants showed a significant negative correlation for the college sample at the .05 level.

Reviewing the significant correlation between the ATDP and the various subscales of the adjective checklist one finds the following list:

At the .01 level or beyond correlations were obtained with:

flexibility (.17)
self-criticism (−.18)
likability (.16)
nurturance (.22)
affiliation (.18)

Significant relationships were obtained which reached the .05 level but not the .01 with:

role-playing (.14)
poise and presence (.13)
potential success (.15)
personal adjustment (.12)
aggression (−.13)
intraception (.13)
succorance (−.13)

Insignificant correlations were obtained for the following subscales:

rigidity
positive character integration
self insight
self acceptance
originality
good judgment
responsibility
heterosexuality
dominance
exhibition
achievement
deference
change
endurance
abasement
autonomy

with none of these correlations greater than .11.

According to the authors, college subjects are consistently more accepting of the disabled than are sub college subjects. There do not seem to be appreciable differences between high school and junior high school students on the social distance scale. Females tended to show greater acceptance than males for the high school and college groups with no significant difference for the junior high school population.

In another part of the same report, Siller and his colleagues present findings based on a sample of 65 subjects (27 male and 38 female) chosen initially in a pool of subjects of three different sources. Two senior classes from the Hebrew parochial high school near New York City, students at New York City academic and business colleges and various community organizations (primarily Jewish). All subjects within these larger populations took the ATDP and revised forms of the Feeling Check List and Social Distance Scale (actually only about 40% of the members of the community returned the questionnaires). Persons selected for further contact were (1) those with extremely low scores on the ATDP and low ratings on the revised FCL and SDS scale (2) those high on all measures and (3) those who either spread throughout the middle ranges of the distributions or showed "intriguing inconsistencies" between the three measures. The authors report "once these individuals were identified, a reasonable range and balancing of sex, education, age, and marital status was sought. Telephone contact was successful in obtaining participants of most persons approached. A few refused outright, and "losses" resulted from scheduling problems. All subjects were seen individually at various locations on the New York University campuses or in the subject's home. They were paid $1.50 per hour for actual time in session and transportation costs. Of the final sample of 65 subjects all were administered the Rorschach and the Klopfer KPRS scale and a subsample of 55 was administered the TAT. Siller and his colleagues present a table of correlations between the ATDP and the number of scores derived from these projected measures. A significant negative correlation was obtained for the group between ATDP scores and the Rorschach permeabilities score ($r = -.28$ $p < .05$). No significant correlation was obtained for Rorschach scores for anxiety, hostility or impermeability nor was there significance for the Klopfer KPRS (this latter scale presumably "quantifies formal scoring and content qualities of the Rorschach"). It is "reported to have value with a measure of generalized ego strength and adaptive potential." Similarly no significant relationship between ATDP scores and a dependency index and aggression index and a castation anxiety score for the TAT nor was there a significant relationship between ATDP scores and the Draw A Person Index.

#31 **Siller, J., Ferguson, L. T., Vann, D. H., & Holland, B. Studies in Reactions to Disability, XII: Structure of attitudes toward the physically disabled. Disability Factor Scales – Amputation, Blindness, Cosmetic Conditions. New York University School of Education, November 1967.**

In this study Siller and his colleagues developed a series of Disability Factor Scales for amputation, blindness and cosmetic conditions respectively (DFS, A, B and C). Each of these scales in turn include measures with the following titles: interaction strain, rejection of intimacy, generalized rejection, authoritarian virtuousness, inferred emotional consequences, distressed identification and imputed functional limitations. The authors then administered each of these measures to a sample of 65 physical therapy majors and a second sample to 22 undergraduate psychology majors. The authors report "The patterns for both groups were identical: all the scales on the DFS-A and B, except Authoritarian Virtuousness and Distressed Identification correlated significantly with the ATDP. For the most part, for the larger group these were moderate correlations in the range of .30 to .45. On the DFS-C, only Rejection of Intimacy and Interaction Strain were significantly correlated with the ATDP. The presence of positive correlations between the ATDP and certain Factor Scales supports the interpretation of these scales as measures of disability attitude."

The authors analyses of the relationships between the DFS and the ATDP lead them to conclude: "The ATDP might then be characterized as drawing its major reliable variance from the affect dimension. The DFS has an advantage over the ATDP even as a measure of disability-related affect as it provides greater specificity through separate first order factor scales and uniformly higher reliabilities of both the first and 'second order' scales."

The significant correlations between the ATDP and DFS scales obtained in the study range from a low of .29 to a high of .69.

#32 **Urie, R. M., & Smith, A. H. The effects of peer contact on attitudes toward disabled college students. Journal of Applied Rehabilitation Counseling, Vol. 1, Winter 1970-71, No. 4, 24-32.**

The subjects for Urie and Smith's study consisted of 96 male and 117 female freshmen at St. Andrews College. This represented the total entering class of 1969 except for disabled students and their roommates. In addition, a random sample of 43 freshmen, 20 male and 23 female, from Catawba College constituted the control group. The authors reported Catawba College was used as a control group on the basis of its similarity to St. Andrews as reported in the tenth edition of American Universities and Colleges, Council on American Education. Primary criteria included college size, size of freshman class in 1969, average S.A.T. scores, percentage of freshmen from the upper half of the graduating class and denominational control. The absence of disabled students was the final criteria for the selection of Catawba as the control institution. The authors note, however, that the total expense for attending St. Andrews was approximately $1,000 higher per year than Catawba.

Based on the mean scores reported, it appears that Form O of the ATDP was used. Students were also asked to complete a self-report measure of previous contact with the disabled. Each measure was presented twice over an 11-week interval with the first test session the opening of the fall term.

The authors report significant differences between males and females with females receiving higher pretest scores than the males. In addition to being higher in their pretest scores, females with prior contact with disabled persons showed greater positive change than do males or females with no contact.

They note that at the control school, females even with no contact with the disabled on their campus do show a slight gain, but it is not nearly the dramatic change that the St. Andrews females show. Therefore, it is possible to conclude from this study that 11 weeks of exposure to a considerable number of handicapped students on a college campus does change

the attitude of females considerably toward those students whether or not they have had previous contact with disabled students. For a college that does not have disabled students, it is entirely possible that there is some gain as a result of overall growth or changes in attitude as a result of time without distinct exposure to handicapped students.

No significant differences were obtained for males although the authors report a somewhat greater change at St. Andrews College (where exposure to the disabled was possible).

#33 **Wallston, B., & Robinson, J. Outlook Nashville Program Participants Pretest, Fall 1971, Outlook Nashville Inc., Jan. 1972, Unpublished manuscript.**

This paper was part of a research project sponsored by the social and rehabilitation service of the Department of Health, Education, and Welfare. According to the authors, 12 students from Vanderbilt University participated in a program to be trained in behavior management techniques with people who are handicapped. Six males and 6 females comprised the total group. In addition, 15 students in special education from George Peabody College were to work with pairs of individuals who are handicapped. In this group there were 3 males and 12 females.

The authors report using a 30-item version of the ATDP but they do not specify whether it was Form A or Form B. In addition, an instrument called the "Spatial Paralogic Attitude Inventory" (SPAI) was administered. According to the authors, this instrument is based on a theory of self-other orientation and is a self-esteem measure requiring minimal verbal communication. In the test the subject places himself along with 5 other individuals in a position associated with high esteem. In the present administration the self was "included along with one person with a non-stigmatized disease, and 3 persons in occupations of varying status." The authors report that 2 scores are possible in measuring attitudes toward the disabled, one relating to stigma with regard to the disabled and the other according to distance.

In addition to this measure, the sex of the subject was recorded as well as a measure of social class based on father's occupation. An index of experience with the disabled was also used.

The authors report insignificant correlations between the ATDP and the distance measure of the (SPAI). However, a significant correlation was obtained between the ATDP and the stigma measure of the same instrument for the Peabody students but not for the Vanderbilt students. Females in the Vanderbilt group were found to score higher than males but not for the Peabody group. Finally, no significant relationship between social class or experience with the disabled was found for either group.

#34 **Webster, J. D. The attitudes of non-disabled adolescents toward disabled adolescents. Doctoral dissertation. University of Maryland, 1967.**

Webster administered Form B of the ATDP to 285 adolescents attending parochial schools in Evanston, Illinois. The group consisted of 148 females and 137 males ranging from 13 to 16 years of age.

Webster investigated five specific hypothesis concerning attitudes toward disabled persons. Specifically hypothesis dealing with sex, age, father's occupation, I.Q. of the respondent and knowledge of handicapped among friends and family. His results indicated that females had significantly more positive attitudes than males. Age (at least within the range studied) showed no significant difference from one group to another. Significant differences were obtained when students were classified by father's occupation. Specifically students whose fathers were employed in either professional, semi-professional or clerical positions had more positive attitudes toward the disabled than those whose fathers were employed in service or labor occupations.

Webster also found a correlation of .261 (significant beyond the .05 level) with scores on

the Otis Mental Ability Test (Form 1) indicating a positive relationship between intelligence and positive attitudes toward physical disability.

His final hypothesis dealing with knowledge of handicap revealed no significant differences in ATDP scores when the subjects were classified on the basis of responses to questions dealing with friends or family who were "handicapped, crippled, or disabled."

#35 **Zych, K., & Bolten, B. Galvanic skin responses and cognitive attitudes toward disabled persons. Illinois Institute of Technology. Unpublished manuscript. Undated.**

Zych and Bolten studied a sample of 22 males from introductory psychology sections. All were volunteers filling a course requirement for participation in some experimental study during the semester.

Form B of the ATDP was administered to an initial group of 115 students in the Introductory Psychology course. Of these, 11 were randomly chosen from the upper 25 percent of the distribution of scores and 11 from the lower 25 percent producing an extreme groups design. The range of scores for the upper group was 128 to 147 and for the low group 42 to 81. According to the normative tables, a score of 81 represents the 18th percentile while a score of 128 represents the 84th percentile.

Approximately one month after the administration of the test, each of the subjects was assigned to report to a testing room and was informed that his name had been randomly selected from a list of psychology students. He was told that the investigator was not concerned with his unique reaction but rather statistical measures based on an entire group. Finger electrodes were attached to the subjects' first and third fingers on the left hand. This in turn was attached to a GSR apparatus consisting of a Stoelting dermohmmeter and calibrated strip chart. While the apparatus was in place, ten 35 millimeter slides were shown. These were acromatic pencil drawings. Two of the pictures were of neutral scenery, four of people with disability and four of those with normal appearance. Disabilities were specifically: a single-leg male amputee standing with crutches, a man sitting in a wheelchair, a man sitting in front of a typewriter with a prosthetic device in place of a hand and a man standing with arm braces. The four physically normal pictures were men standing in identical poses but without disability. The two pictures of scenery were shown first with the remaining pictures shown randomly throughout the rest of the series.

A basal GSR response for the first two photographs was obtained for periods of one to three minutes each. Each slide was shown for 15 seconds and then time was permitted for the recording pen to return to a base level before the appearance of the next picture. GSR flections were analyzed according to the highest point reached during each 15 second exposure.

Following the experiment, each subject was interviewed to determine whether there were any circumstances that would especially sensitize him to disabled people. None of the subjects reported experiences which in the authors' judgment would justify omission of their scores.

Each of the eight pictures of adults was assigned a rank from 1 to 22 according to the magnitude of the GSR response using the sum of ranks for the disabled and "normal" picture separately. The Mann-Whitney U. Statistic was calculated to compare the combined sum of ranks for the normal pictures for the high vs. low ATDP groups, the comparison yielded no significant difference. The same statistic was used to compare the sum of ranks for the disabled pictures between the two extreme groups and the difference was significant at the .01 level. The authors note "the significance level does not reflect the almost complete separation of the high and low ATDP groups: only one high ATDP subject was placed below any low ATDP subject."

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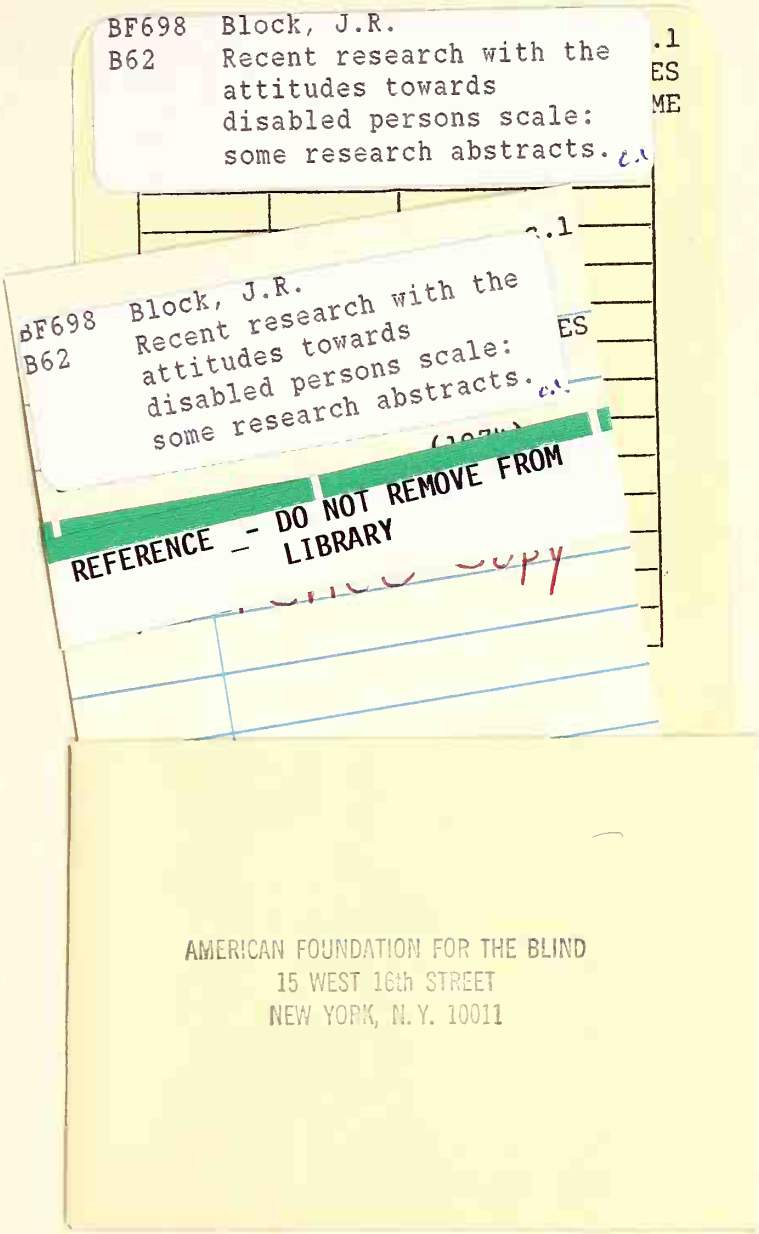
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